ecology and environment, inc.

111 WEST JACKSON BLVD., CHICAGO, ILLINOIS 60604. TEL. 312-663-9415

International Specialists in the Environment

August 21, 1992

Brad Bradley,HSRL-6J
Remedial Project Manager
U.S. Environmental Protection Agency
77 West Jackson Blvd.
Chicago, Illinois 60604

Re: NL Industries Sampling Summary and Analytical Data Report
Work Assignment 22-5NK7

Dear Brad:

Enclosed please find five copies of the Sampling Summary and Analytical Data Report for the NL Industries project.

I will be out of the office until August 28. If you need to contact me, you can leave a message with our receptionist and I will call you back as soon as I can.

Sincerely,

ECOLOGY AND ENVIRONMENT,INC.

David Klatt

David Klatt, CHMM
Site Manager

cc: Thomas Short, EPA ARCS PO w/o enclosure
Brigitte Manzke, EPA ARCS CO w/o enclosure
Thomas Yeates, E&E

Enclosure

177595

NL INDUSTRIES
ENVIRONMENTAL SAMPLING PROJECT
(ATSDR MULTI-STATE LEAD EXPOSURE STUDY)
GRANITE CITY, ILLINOIS
SAMPLING SUMMARY
AND
ANALYTICAL DATA REPORT
ARCS CONTRACT 68-W8-0086
WORK ASSIGNMENT NO. 22-5NK7

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SAMPLING SUMMARY
AND
ANALYTICAL DATA REPORT
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AUGUST 21, 1992

Prepared for:
U.S. ENVIRONMENTAL PROTECTION AGENCY
REGION V
OFFICE OF SUPERFUND
77 WEST JACKSON BOULEVARD
CHICAGO, ILLINOIS 60604

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TABLE OF CONTENTS

1. INTRODUCTION

The NL Industries Environmental Sampling Project was issued to Ecology and Environment, Inc. (E & E), on August 12, 1991, under Alternative Remedial Contracts Strategy (ARCS) Work Assignment Number 22-5NK7. The United States Environmental Protection Agency (U.S. EPA), Region V, managed the overall direction of the environmental sampling project and functioned as the focal point between E & E and several other participants in a larger scale, multi-state lead exposure study sponsored by the Agency for Toxic Substances and Disease Registry (ATSDR). The environmental sampling activities, which were conducted in Granite City, Madison, Venice, and Pontoon Beach, Illinois, were a part of that larger study to determine the level of lead and cadmium contamination in soil, household dust, and drinking water, and the level of lead only in household paint within several target areas. The derived analytical data will be compared with other information collected during the study, particularly participants' blood and urine analytical data, to determine whether environmental factors have adversely impacted human health in the study area. Households with children between the ages of 6 months and 6 years were the primary focus of the study. The Granite City area was chosen as a study location because of the proximity of heavy industrial activity, including a large secondary lead smelter, to residential areas.

The study involved the participation and cooperation of multiple private and governmental entities including U.S. EPA, ATSDR, E & E and its subcontractor, National Environmental Testing and Control, Inc. (NETCO), the Illinois Department of Public Health (IDPH), the Institute for Evaluating Health Risks (IEHR), and many individuals in the Granite City, Illinois, area.

The environmental sampling project began under very strict time constraints in order to coordinate efforts with the blood and urine sampling activities conducted by IDPH and IEHR as well as sampling activities being conducted in other study areas. U.S. EPA prepared the Quality Assurance Project Plan (QAPP) for the project, which contained specific sampling protocols, sample handling instructions, data quality objectives, analytical methodologies, and quality control mechanisms. Due to the expedited and evolving nature of the project, U.S. EPA amended the QAPP several times on the basis of E & E input. The document was finalized on September 18, 1991. The majority of E & E's field procedures are documented in the QAPP. This report provides a

summary of the environmental sampling efforts undertaken by E & E as well as a description of activities and procedures that were not specifically outlined in the QAPP. Finally, this report provides a discussion of the quality of the derived analytical data and presents the data in summarized tabular form for use by other participants in the study.

2. FIELD SAMPLING SUMMARY

The following is a description of the field sampling activities conducted by E & E in support of the ATSDR Multi-State Lead Exposure Study.

2.1 BACKGROUND

E & E mobilized to Granite City, Illinois, on September 3, 1991, and participated in a meeting with IDPH, ATSDR, IEHR, and NETCO (E & E's X-ray fluorescence [XRF] subcontractor), in order to clarify and coordinate the planned project events. The general sampling strategy detailed in the QAPP was discussed at the meeting. Six E & E personnel and two NETCO technicians composed the environmental sampling team. E & E directed its field operations from a hotel located in the Granite City area.

Initial estimates provided by IDPH and IEHR indicated that approximately 400 homes would be involved in the study. E & E was given 30 days to collect environmental samples including household dust, drinking water, soil, and analysis of *in situ* paint samples from all of the homes. Blood and urine samples were being collected at a central location by IDPH and IEHR, at which time participants were asked to participate in the environmental sampling portion of the study. IEHR subsequently provided E & E with partial lists of participants who agreed to allow E & E to collect the environmental samples at their homes. Each participant was given a unique identification number by IDPH and IEHR so that the results could be tracked in the future without using the participant's name or address. E & E used cellular phones to coordinate efforts between the two sampling teams and the site manager, who was scheduling specific appointments with participants. Environmental sampling began on September 4, 1991.

From September 4 through October 3, 1991, E & E collected environmental samples from 379 participant homes. Out of a total participant list of 389, only 10 homes were not sampled. This small number of homes was not sampled either because the participant refused to allow the sampling or because the participant could not be reached, even after exhaustive attempts. Typical of E & E's diligence in attempting to contact participants was the willingness to make dozens of phone calls or personally deliver multiple messages to a reported

address. These extraordinary efforts resulted in only a handful of nonrespondents. A total of 1,125 environmental samples were collected and processed.

2.2 SAMPLE COLLECTION

Upon receiving a list of homes from IEHR, E & E contacted participants by phone, or in person if necessary, to schedule sampling appointments. E & E explained to each resident that it would take about 30 minutes to collect the following samples:

- soil samples from the yard;
- indoor household dust; and
- analysis of indoor paint by XRF instrumentation.

In addition, participants were provided with a pre-sterilized, empty plastic sampling container which they were instructed in writing to fill with water from the cold water household kitchen tap in the morning before using any other water source in the house (i.e., a first-draw). E & E was extremely careful to conduct all verbal and written communications with participants in a clear and simple manner without using technical or confusing language (information provided to each resident prior to the sampling event is provided in Appendix A). In most cases, E & E was able to provide the plastic container and other written information to participants the day prior to the sampling appointment. This enabled the field sampling teams, consisting of a soil collector, a dust collector, and an XRF subcontractor technician, to pick up the resident-collected water sample at the time of the sampling appointment. If this was not possible, or if the resident forgot to collect a "first-draw" sample, then E & E had to revisit the home to pick up the water sample.

The following sections describe those activities and procedures conducted by E & E in the course of the project that were not specifically detailed in the QAPP dated September 18, 1991.

2.2.1 Soil Sample Collection

Based on the requirements of the QAPP, E & E devised appropriate field sampling forms for each of the four sampling media. Blank copies of these forms can be found in Appendix B. The completed field forms are on file at E & E's Chicago office. At each residence, the E & E soil sampler made a drawing of primary property features such as the building location, child play areas, vegetation, and other relevant information on the back of the field form. The sampler also checked descriptive boxes on the field form to describe additional features of the property.

In accordance with the QAPP, E & E collected one composite soil sample derived from 10 aliquots on each subject property using a metal coring device. At each aliquot location, the top 1 inch of soil was collected from two cores within 3 inches of each other to provide sufficient soil volume. An equal volume of soil, excluding debris and undecomposed matter, was collected from each aliquot and placed into a stainless steel bowl. The 10

aliquot locations were labeled on the property sketch. E & E chose all aliquot locations based on reported or actual evidence of child play areas. E & E did not select aliquot locations within 3 feet of any structure unless there was obvious evidence of a child play area. If this evidence was observed, E & E collected the aliquot sample and noted the information on the field form. Very few aliquots within 3 feet of a structure were collected. At the request of IEHR on September 6, E & E also noted on the field form whether a home had exterior painted surfaces that could be evaluated by XRF instrumentation.

After all 10 aliquots were collected, E & E thoroughly mixed the soil in the bowl with a stainless steel spoon. After mixing, the composited soil was placed into pre-cleaned 8-ounce glass sample containers that had been previously labeled with the applicable home identification number.

Sampling equipment, including stainless steel bowls, corers, and spoons were decontaminated after each home sampled using an Alconox™ detergent solution mixed with distilled water, a toothbrush scrubber, and a thorough rinse with pure distilled water.

Sample chain-of-custody was maintained for all samples as described in Section 2.3.

2.2.2 Interior Surface Dust Sample Collection

Because of the large sample size required for laboratory analysis (3 to 5 grams), E & E was directed in the QAPP to use a standard portable Dustbuster™-type vacuum cleaner to collect interior surface dust samples. E & E used a hand held Sears Dynomite™ line current vacuum with an 18-foot cord. Limitations on the availability and expense of obtaining approximately 400 reusable, fabric vacuum filters with an elastic ring necessitated reuse of filter. Because the fabric filters are washable, they can be decontaminated after each use. Decontamination procedures will be detailed later in this section.

E & E ensured that an adequate sample volume was being collected by weighing a number of dust samples at the beginning of the project. E & E determined that collecting dust from the required sampling areas in a home was sufficient enough in most cases to obtain between 5 and 20 grams of the dust sample. In homes that were particularly clean, E & E collected as much dust as possible in target areas without obtaining any dust from areas of long-term accumulation such as behind a refrigerator.

Upon entering a home, the dust sampler used the project vacuum cleaner to vacuum floors and window sills in bedrooms, the kitchen, and entryways that indicated use by any children in the home and/or areas that were reported by the parent or child as being common play areas. The vacuum was not opened or emptied until all areas had been sampled. In order to obtain an adequate sample volume, E & E routinely sampled between 100 and 300 square feet in targeted areas. Areas vacuumed by the sampler were measured with a measuring tape and recorded on the vacuum dust sampling field form (See Appendix B). In addition, the sampler highlighted and labeled dust sampling areas on an interior sketch of the home that was drawn by the XRF technician to document XRF reading locations.

Upon completion of sampling within a home, E & E carefully placed the composited contents of the dust canister, including material that had adhered to the filter, into a Ziploc™ bag that was labeled with the

appropriate home identification number. E & E did not remove any hair, paint chips, bugs, or other debris that was obtained during dust sampling activities in each home. The dust sampler wore a new pair of latex gloves for each sample to remove the material from the filter. Duplicate dust samples were collected by visually dividing the sample in half and placing the material in two separate, labeled plastic bags.

Dustbuster™ filters were decontaminated after each use by washing with water and Alconox™ detergent and thoroughly rinsing with tap or distilled water. The interior of the vacuum dust collection canister was wiped with a new, damp paper towel to remove any residual dust after each sample collection. E & E routinely expedited the filter drying process after washing by briefly placing the filter back on the vacuum and running the equipment. The filter was then placed in a plastic bag with other decontaminated filters until needed. Each sampling team carried approximately 10 filters during the majority of the field work. E & E made every attempt to use each filter only once each day so that they would not receive excessive wear and so that they would be sufficiently dry before their next use. In some cases this was not possible and a few filters had to be used more than once per day with proper decontamination between uses.

Sample chain-of-custody was maintained for all samples as described in Section 2.3.

2.2.3 Drinking Water Sample Collection

As noted earlier in Section 2.2, upon scheduling a sampling appointment, E & E provided participants with a pre-labeled, 1-liter, pre-cleaned plastic bottle and written instructions on how to collect the water sample in accordance with U.S. EPA's Final Rule for Lead and Copper in Drinking Water (Federal Register, June 7, 1991). Residents were also verbally instructed on proper collection methods over the phone or in person. No nitric acid preservative was placed in the plastic bottles until after the samples were picked up by the sampling team and returned to the sample manager at the field office. The preservation procedure will be discussed in Section 2.3.

If a participant failed to collect a "first-draw" water sample in the morning prior to using household water sources, or if the family's schedule presented difficulties in collecting the sample in the morning, E & E instructed participants to collect the sample at a time that was convenient to them *as long as household water sources had been inactive for a minimum of six hours in accordance with the above-cited regulation.* Upon receiving water samples from participants, E & E recorded the participant's reported water sample collection time on the Drinking Water Sampling Field Form as well as the date and time of E & E's sample pickup from the participant. Numerous visits to some houses were often required to obtain the water sample, although the overall response, cooperation, and understanding of the participants was generally very good.

In addition to receiving the water sample, an E & E field team member also, if possible, evaluated the type of plumbing found beneath the kitchen sink. The appropriate box on the field form indicating the pipe materials was checked by the E & E sampler.

No decontamination procedures for the drinking water sample collection were necessary.

Sample chain-of-custody was maintained for all samples as described in Section 2.3.

2.2.4 *In Situ* Paint Analysis by XRF Instrumentation

According to the requirements of the QAPP, *in situ* analysis of household paint for lead content was conducted using Princeton Gamma-Tech XK-3™ instrumentation operated by trained NETCO technicians. The optional XK-2™ instrument was not used because it has become virtually obsolete due to its age (last manufactured in 1976) and its unavailability since parts are no longer made for the model. One XK-3 TM technician accompanied each E & E sampling crew. Prior to taking any readings at a household, a calibration check was performed against known lead standards provided by the instrument manufacturer (1.5 mg/cm^2 lead and a zero check). The results of the calibration check were recorded on the XRF Operator Field Form including the unique home identification number for that location (see Appendix B).

Upon entering a home, the technicians targeted child play areas less than 3 feet in height as potential points of analysis. Deteriorated painted surfaces in the target areas were of particular concern. Prior to recording a reading from a new location, the technician took a clearance reading from the painted surface to stabilize the instrument; this reading was not recorded. The technicians then proceeded to collect three readings from painted walls and three readings from painted woodwork in each of three rooms most frequented by children (typically the child's bedroom, living room, and kitchen). Each of the readings was recorded on the XRF Operator Field Form along with the height of the reading location from the floor and the condition of the paint. Painted woodwork surfaces were further described as to type such as doorframe or baseboard. The XRF technician also completed a top-view sketch of the residence indicating primary room functions and the locations of each of the XRF readings (dust sampling areas were also labeled on this sketch).

The technicians did not collect readings from any nonpainted surfaces such as paneling, wallpaper, or unpainted woodwork. Given the above criteria for selection of reading locations, a total of 18 readings would be collected from a residence with enough painted surfaces in targeted play areas within 3 feet of the floor. In some homes, because of the lack of painted surfaces, fewer readings were collected. Upon completing the readings within a home, the technicians calculated the arithmetic mean of the recorded readings and recorded that number on the field form.

Because the XK-3 TM instruments are not specifically designed to provide lead readings in excess of 10 mg/cm^2, the XRF technicians were prepared to record the response time of the instruments should a reading exceed that level. If a reading greater than 10 mg/cm^2 was encountered, the instrument response time was recorded during a subsequent reading and an extrapolated lead value was calculated and recorded on the field sheet. This extrapolation was possible due to the direct relationship between the instrument response time and the concentration of the lead in the paint, as reported in a phone conversation with the developer of the instrument, Alex Fishburg.

Before leaving a residence, the XRF technician rechecked the instrument calibration against the known standards and recorded the readings on the field form.

2.3 SAMPLE TRACKING AND HANDLING

As indicated previously, sample bottles for soil and drinking water, and plastic bags for dust samples were labeled with the appropriate home identification number prior to entering each property. In addition, the appropriate home identification number was placed on each field form prior to collecting samples. Detailed sample information including the date and time of sample collection, the condition of the property and or the area of concern, the name of the sample collector, and other relevant information was recorded on the appropriate field forms.

Labeled samples were kept under direct E & E custody or in a locked vehicle until the sampling teams returned to the field office at least twice each day, at which time the custody was relinquished to an E & E staff member dedicated to sample management. As samples were returned to the field office, the designated sample manager placed a tag and adhesive label on each sample container indicating the identity of the sample as well as the analyses to be conducted by the laboratory. Soil and dust samples were then separated and placed in 80-quart coolers for storage. The pH and conductivity readings were recorded for each water sample, and these samples were subsequently preserved by adding 2 milliliters of nitric acid to each sample bottle. Water samples were also labeled and stored in 80-quart coolers. At the time of the field sampling activities, no laboratories had been assigned by U.S. EPA to conduct the sample analysis. E & E could not fully complete the sample tracking paperwork for this reason and therefore the samples were stored in the coolers with signed and dated custody seals on the exterior awaiting the assignment of the laboratories. Samples were kept in the locked or attended field office during field activities. The sample manager maintained a detailed logbook of all sample tracking information and procedures.

Upon completion of field sampling activities on October 4, 1991, E & E transported all of the environmental samples back to Chicago awaiting the assignment of laboratories to perform the required analyses. Samples were stored in coolers affixed with signed and dated custody seals. On November 26, 1991, laboratories were selected for soil and water samples. In addition, U.S. EPA's Central Regional Laboratory (CRL) in Chicago decided to conduct analyses on approximately 59 priority dust samples that had been identified by IEHR based on blood analysis results. All soil and water samples, including priority samples, were shipped to the chosen EPA-certified Contract Laboratory Program (CLP) laboratories by December 3, 1991. Priority dust samples were also delivered to CRL by this date. Five coolers containing the remaining dust samples were shipped by E & E on or before April 21, 1992, when U.S. EPA selected the final CLP laboratories to complete the analyses.

2.4 QUALITY CONTROL MEASURES

Per the project QAPP, E & E collected field duplicate samples for soil, dust, and water at a rate of 10 percent of the total number of samples collected for each matrix. In addition, E & E prepared a reagent-grade water field blank at a rate of 5 percent of the total number of drinking water samples. These quality-control samples were handled and tracked according to the same procedures applied to all other samples. At the request

of U.S. EPA, E & E prepared field blanks prior to the commencement of field activities and shipped them to CRL for analysis. U.S. EPA concluded that the results were satisfactory as applied against the QAPP detection limit requirements. The quality control sample results will be discussed in Section 3.1.

At the end of each day, the site manager and sample manager reviewed the field forms for completeness and accuracy including all mathematical computations on the XRF forms and the correlation of home identification numbers with the sample containers. Any deficiencies were discussed with the sampling teams the following morning during each day's planning meeting and subsequently corrected.

The site manager continually conducted unannounced spot-check field audits of the two sampling teams to ensure that the requirements of the QAPP were being followed. The XRF technicians also cross-checked their instruments by switching their boards containing known lead standards and found an excellent correlation in each case.

3. ANALYTICAL DATA SUMMARY

The following is a discussion of the derived analytical data quality and a presentation of the data in tabular form.

3.1 DATA QUALITY

Overall, the soil, dust, and drinking water data are acceptable for the intended use. The CLP laboratories followed the procedures outlined in the special analytical services request written by CRL. The proper number of field duplicates and field blanks were collected for each matrix by E & E.

U.S. EPA recommended that all of the soil sample results needed to be reanalyzed after field duplicate results showed unacceptable precision. The 59 priority soil samples were reanalyzed and all of the original results were deemed acceptable with the exception of sample 5405, where the reanalyzed sample value was reported. The remaining nonpriority soil samples were reanalyzed and the results from the reanalysis were reported.

The field duplicate soil results showed excellent precision for the reanalysis except for one sample pair, which yielded different lead results upon reanalysis. This is possibly due to nonhomogeneity of the soil.

The dust data are acceptable for intended data use. In most samples, the paint chip analysis did not significantly affect composite dust results for lead. Some samples did show a large increase of lead between dust and calculated composite results due to large weights and high lead content in paint. These samples are noted in the data summary tables.

Most dust field duplicates show good correlation but some show poor precision. The poor precision may be due to the fact that more paint chips were present in one sample of the pair than the other.

The drinking water sample data were acceptable. After the CLP laboratory tested the drinking water samples and reported cadmium and lead results, CRL retested one in seven samples for comparative lead analysis on a split-sample basis. An excellent correlation was obtained between the CLP laboratory and CRL except for sample 7828. For this sample, the drinking water result for lead from the reanalysis was reported.

The field duplicate drinking waters show good correlation. The field duplicate results are indicative of appropriate lead and cadmium analysis by the CLP laboratory. The differences between the samples and their duplicates are probably due more to the "first-draw" sample not being the same aliquot used for the duplicate.

The field blanks were prepared by E & E with reagent-grade water. Neither cadmium nor lead were detected in any of the field blanks for the entire drinking water study portion, indicating sound field sampling procedures. The difficulties encountered in the analyses of all the sample media resulted in a delay of the release of data to ensure that proper quality assurance objectives were achieved.

3.2 DATA SUMMARY TABLES

This section presents the analytical data of field samples collected during the NL Industries Environmental Sampling Project. The data are presented in summary tables, and were compiled from CLP analysis of soil, water, and nonpriority dust samples, CRL analysis of priority dust samples, and NETCO *in situ* XRF paint analysis.

Analytical results from priority samples, which were selected on the basis of blood sampling results evaluated by IDPH and IEHR, are presented first in the tables followed by nonpriority analytical results. Duplicate analysis of priority and nonpriority samples are presented following their respective correlary sections.

At the request of IDPH, E & E also compiled a table of additional dust sampling information including the total sample weight and area vacuumed for each sample location. This information is provided immediately after the priority and nonpriority sample results.

08/07/92

NL INDUSTRIES LEAD AND CADMIUM ANALYTICAL DATA
PRIORITY SAMPLES
ARCS WA# 22-5NK7

HOME ID#	PAINT MG/CM2	SOIL MG/KG		DUST MG/KG		WATER UG/L	
	LEAD	LEAD	CADMIUM	LEAD	CADMIUM	LEAD	CADMIUM
146	2.1	1180	4.5	1600 (100)	10.0 (0.2)	3.8	U
327	0.8	390	3.8	490	13.0	U	U
518	1.0	351	4.1	NA	NA	9.5	U
682	11.4	410	3.4	1600	4.6	U	U
770	0.7	2440	3.7	2800	6.6	16.7	2.30
1065	0.3	311	3.1	240	4.6	U	U
1178	3.4	384	3.8	4100	10.0	U	U
1306	0.2	210	2.1	750	5.1	3.7	U
1313	5.1	488	6.1	1200	6.6 (0.1)	U	0.64
1334	0.2	703	7.0	600	6.7	14.5	U
1360	4.8	1050	3.1	15000	22.0	U	U
1669	0.1	196	2.2	160	4.7	2.3	U
1830	3.8	295	2.9	1200	6.0	2.0J	U
1917	2.5	364	2.9	180	4.6	U	U
2032	0.7	962	3.7	520	5.3	U	0.63
2060	1.5	248	2.7	370 (10)	8.9	15.9	U
2094	0.2	768	4.4	580	6.3	U	U
2096	16.2	575	5.9	25000	9.3	4.5	U
2287	0.1	144	2.3	110	2.7	U	U
2523	5.8	1720	7.8	660	9.0	U	U
2593	0.3	938	2.8	1800	12.0	U	U
2625	0.3	236	2.4	220	6.4	U	U
2752	0.5	797	4.4	510	6.7	U	U

Key at end of table

08/07/92

NL INDUSTRIES LEAD AND CADMIUM ANALYTICAL DATA
PRIORITY SAMPLES
ARCS WA# 22-5NK7

HOME ID#	PAINT MG/CM2 LEAD	SOIL MG/KG LEAD	SOIL MG/KG CADMIUM	DUST MG/KG LEAD	DUST MG/KG CADMIUM	WATER UG/L LEAD	WATER UG/L CADMIUM
2765	0.7	580	2.5	560	7.8	U	U
2767	2.6	396	3.2	470 (10)	7.9	U	U
2768	2.9	396	3.2	*823 (264)	*10.7 (0.5)	*4.2	*1.6
2877	0.3	538	3.0	600	8.8	2.0	U
2963	0.4	388	3.4	510	4.9 (0.1)	4.6	U
3129	2.1	345	2.8	1700 (100)	6.0 (0.3)	2.1	U
3138	0.7	722	2.9	590	5.9	U	U
3172	0.1	223	5.9	150	2.8	NA	NA
3281	0.0	345	2.2	150	3.2	U	U
3502	1.1	373	3.9	330	12.0	10.8	0.63
3603	7.3	1030	4.8	1700	4.1	2.9	1.40
5067	1.9	544	3.5	220	5.1	U	U
5123	10.5	1800	4.8	1200	5.1	U	U
5403	7.1	195	2.7	5900 (100)	37.0 (1)	U	0.65
5405	2.5	**216	**2.0	220	4.8	4.2	U
6058	0.5	191	1.8	370	10.0	U	U
6212	1.2	695	3.8	270 (20)	4.3 (1.9)	10.8	U
6285	0.1	364	3.6	560 (110)	13.0	2.0	U
6295	1.2	306	2.4	440	3.3	U	U
6839	0.4	NA	NA	120	3.0	U	U
6972	5.9	460	4.3	1000 (20)	4.5 (0.2)	7.1	4.70
7784	0.1	291	3.5	650 (60)	4.8	U	U

Key at end of table

08/07/92

NL INDUSTRIES LEAD AND CADMIUM ANALYTICAL DATA
PRIORITY SAMPLES
ARCS WA# 22-5NK7

HOME ID#	PAINT MG/CM2	SOIL MG/KG		DUST MG/KG		WATER UG/L	
	LEAD	LEAD	CADMIUM	LEAD	CADMIUM	LEAD	CADMIUM
7834	6.6	505	2.9	1500	4.0	12.2	U
7918	0.4	215	1.6	710	7.5	U	U
8117	0.8	335	2.0	420	5.5	U	0.54
8459	1.2	206	2.0	510 (10)	6.3	U	U
8832	0.5	308	2.4	170	2.2	U	U
9512	0.4	170	2.5	290	9.6	U	U
9529	0.5	1570	4.6	440 (10)	8.5 (0.1)	8.7	1.80
9530	2.0	455	3.0	230	1.2	U	U
9536	2.7	2600	4.7	3400 (600)	9.9	2.2	U

Key:
* Values were not reported at the time of original submittal.
** Samples were reanalyzed and the values changed from the time of original submittal.
U (Undetected) - Compounds were analyzed, but not detected above the laboratory detection limits.
J Indicates an estimated value.
NA (Not Analyzed) - A sample was not obtained for this matrix.
( ) Indicates dust sample results that were influenced by the presence of paint chips found in the sample. The values to the left of the parentheses are composited dust and paint chip results. The values within the parentheses indicate the amount of increase caused by the presence of paint chips. Composite results were determined by mathematically combining the concentrations of the dust and paint chips, proportionally to the total weight of the fractions.

2

08/07/92

NL INDUSTRIES LEAD AND CADMIUM ANALYTICAL DATA
FIELD SAMPLES
ARCS WA#22-5NK7

HOME ID#	PAINT MG/CM2 LEAD	* SOIL MG/KG LEAD	* SOIL MG/KG CADMIUM	DUST MG/KG LEAD	DUST MG/KG CADMIUM	WATER UG/L LEAD	WATER UG/L CADMIUM
9	0.1	335	2.9	454 (1)	10.2	4.1	U
37	0.1	189	2.1	212	6.0	NA	NA
40	1.6	376	2.6	366	9.6	3.1	U
66	NA	343	13.5	124	3.3	U	U
111	0.1	126	2.8	192	6.7	U	U
153	2.3	413	2.4	733	9.7	U	U
205	NA	520	5.1	NA	NA	U	U
230	NA	455	5.2	492	16.6	U	U
248	2.7	290	2.6	383	1.4	U	U
265	0.2	1020	3.1	907	10.6	6.6	U
287	0.4	646	4.0	205 (10)	6.7	U	U
290	0.5	165	1.3	145	5.1	U	U
326	0.7	428	4.3	429	19.4	NA	NA
344	NA	258	3.6	NA	NA	U	U
348	0.7	249	2.6	133	5.0	2.1	U
364	0.4	183	U	159	1.9	U	U
374	0.2	364	1.7	1050	15.2	U	U
390	8.0	168	2.7	151 (11)	3.1	U	U
399	3.5	229	2.7	400	8.0	U	U
437	5.1	979	4.2	925	7.9	U	U
440	2.1	228	3.2	268 (91)	4.8	9.7	2.80
441	3.3	1860	2.5	298	25.4	3.4	U
455	4.0	1380	4.1	431 (14)	4.6	U	U

Key at end of table

NL INDUSTRIES LEAD AND CADMIUM ANALYTICAL DATA
FIELD SAMPLES
ARCS WA#22-5NK7

HOME ID#	PAINT MG/CM2 LEAD	* SOIL MG/KG LEAD	* SOIL MG/KG CADMIUM	DUST MG/KG LEAD	DUST MG/KG CADMIUM	WATER UG/L LEAD	WATER UG/L CADMIUM
465	0.5	392	5.0	369	5.7	3.1	U
491	5.5	213	2.7	1063 (391)	7.8 (0.1)	4.0	0.75
498	2.7	350	3.8	844 (428)	5.5 (0.3)	2.4	U
500	0.6	506	3.6	296	4.5	U	U
506	3.4	209	1.8	447 (8)	3.5	U	U
522	2.4	256	1.4	939 (341)	4.9	4.8	2.40
568	1.4	314	3.8	276	4.2	U	U
571	2.4	423	3.1	413 (73)	6.4 (0.1)	7.3	1.50
579	1.6	670	4.2	261 (3)	5.8	U	U
596	4.2	501	2.3	24500 (2000)	17.3 (0.2)	0.8	U
602	1.5	243	2.2	913 (252)	50.1	U	0.75
606	1.1	1090	5.0	765 (10)	31.3	U	U
634	1.0	543	3.4	700	2.8	11.1	U
652	0.3	309	2.2	247	8.0	U	U
661	4.2	551	4.4	24800 (1100)	20.2	U	U
662	1.5	370	3.1	241	25.6	U	U
693	1.2	65	1.6	545 (57)	14.4 (0.5)	U	U
697	0.4	104	1.8	222	5.6	U	U
722	0.2	208	2.9	739	8.9	4.6	U
726	0.1	78	1.6	223 (1)	7.4	U	U
728	3.6	648	5.1	203	5.4	U	U
752	2.0	295	1.6	3561 (441)	18.2 (7.2)	3.6	0.71
757	0.3	466	2.6	351	16.9	2.0	U

Key at end of table

NL INDUSTRIES LEAD AND CADMIUM ANALYTICAL DATA
FIELD SAMPLES
ARCS WA#22-5NK7

HOME ID#	PAINT MG/CM2 LEAD	* SOIL MG/KG LEAD	SOIL MG/KG CADMIUM	DUST MG/KG LEAD	DUST MG/KG CADMIUM	WATER UG/L LEAD	WATER UG/L CADMIUM
765	1.9	444	2.4	326 (62)	5.3	U	U
767	2.8	861	4.6	2260	10.8	U	U
791	3.7	383	5.7	675 (17)	6.1 (0.1)	U	0.66
809	3.1	184	1.6	231	3.9	2.0	1.30
844	1.9	860	4.2	19 (13)	6.0	U	U
849	1.6	908	2.4	341	8.4	U	U
873	0.9	664	3.5	381 (18)	5.1 (0.1)	U	U
883	0.3	372	3.1	**242	**6.8	4.9	U
952	0.6	184	2.3	240	6.4	2.9	0.77
982	0.6	227	3.2	166	3.0	U	U
998	6.8	249	2.8	200 (6)	10.7	U	U
1037	1.3	182	1.8	780	6.3	5.1	U
1068	0.2	357	3.2	425	7.4	2.0	1.00
1088	0.0	525	4.5	1000	4.0	U	U
1092	2.0	557	3.4	589 (100)	7.0	2.4	U
1103	5.4	306	3.0	2170 (1020)	48.9	5.2	U
1108	0.1	385	2.0	392 (127)	5.0 (0.1)	U	U
1120	3.9	127	1.4	159 (302)	4.9	U	U
1151	0.3	400	2.3	228 (9)	13.6	U	U
1217	2.8	592	4.5	585 (251)	6.8	5.7	1.50
1238	1.1	360	2.5	194 (20)	5.1 (0.6)	U	U
1352	0.6	884	9.1	965 (217)	11.0 (1.2)	U	U
1366	NA	356	2.2	NA	NA	U	U

Key at end of table

08/07/92

NL INDUSTRIES LEAD AND CADMIUM ANALYTICAL DATA
FIELD SAMPLES
ARCS WA#22-5NK7

HOME ID#	PAINT MG/CM2 LEAD	* SOIL MG/KG LEAD	* SOIL MG/KG CADMIUM	DUST MG/KG LEAD	DUST MG/KG CADMIUM	WATER UG/L LEAD	WATER UG/L CADMIUM
1369	0.1	138	1.3	144	5.9	U	U
1374	0.4	112	2.4	224	9.0	U	U
1419	1.7	274	2.8	8370 (7751)	11.3 (0.3)	3.7	1.30
1444	0.9	294	3.1	413 (100)	7.9	2.0	U
1446	2.3	334	2.3	1250	6.5	U	U
1452	2.0	373	3.4	1450 (1113)	14.8 (9.4)	U	0.52
1464	0.4	324	2.9	315	6.9	10.0	U
1473	0.3	183	3.1	243 (32)	12.2 (0.6)	U	0.55
1474	1.9	474	3.6	581 (33)	22.9	U	U
1490	1.3	690	4.4	1150 (10)	17.0 (0.2)	U	U
1504	0.1	288	2.2	168	3.9	U	U
1517	1.4	584	3.4	341	6.8	U	U
1521	0.1	521	2.7	261	7.3	4.9	1.60
1543	0.8	601	4.9	343	5.0	U	0.96
1557	1.0	224	2.1	366	6.3	U	U
1603	3.2	1300	4.9	1690 (754)	10.5 (2.6)	U	U
1610	7.5	2310	4.2	261	6.5	3.2	U
1638	0.1	176	2.6	117	2.9	U	U
1651	3.2	99	1.6	223	6.7	U	U
1664	NA	310	1.7	199	4.2	U	U
1673	0.6	613	2.4	331	12.7	2.7	U
1679	0.4	304	2.5	136	5.0	U	U
1693	2.6	703	2.3	4650 (2180)	8.1 (1.2)	3.1	U

Key at end of table

NL INDUSTRIES LEAD AND CADMIUM ANALYTICAL DATA
FIELD SAMPLES
ARCS WA#22-5NK7

HOME ID#	PAINT MG/CM2 LEAD	* SOIL MG/KG LEAD	* SOIL MG/KG CADMIUM	DUST MG/KG LEAD	DUST MG/KG CADMIUM	WATER UG/L LEAD	WATER UG/L CADMIUM
1706	3.7	536	3.7	322	3.8	5.1	U
1708	0.4	301	3.1	306	4.0	U	U
1719	0.2	650	1.8	307	U	2.5	U
1721	1.1	98	2.2	116	5.0	U	U
1732	0.0	202	3.3	379 (3)	12.5	U	U
1733	0.1	106	1.9	168 (13)	7.3	U	U
1802	1.1	990	5.5	808	18.5	U	U
1812	0.1	309	3.7	354	10.4	2.1	U
1829	3.2	529	3.6	471 (1)	4.2	3.7	1.10
1841	0.3	351	2.0	96	5.6	7.2	U
1851	0.1	154	3.2	128	5.9	U	U
1854	3.6	276	2.2	379	5.0	U	U
1855	1.8	326	1.6	169	3.7	U	U
1912	0.4	584	2.4	286	5.9	4.0	U
1913	0.5	560	2.0	734 (9)	6.6	U	U
1960	1.8	186	2.8	208	6.9	2.8	U
1971	3.8	798	5.4	37016 (7916)	30.3	U	U
2000	0.1	142	1.2	175	4.3	U	U
2058	0.1	884	2.7	393	7.2	U	U
2092	1.1	927	5.8	177 (5)	3.8	2.5	U
2109	0.8	146	2.3	117	4.8	2.2	U
2111	0.4	181	2.4	206	3.3	U	U
2193	0.1	273	3.3	356 (76)	5.4 (0.1)	3.9	U

Key at end of table

NL INDUSTRIES LEAD AND CADMIUM ANALYTICAL DATA
FIELD SAMPLES
ARCS WA#22-5NK7

HOME ID#	PAINT MG/CM2 LEAD	* SOIL MG/KG LEAD	* SOIL MG/KG CADMIUM	DUST MG/KG LEAD	DUST MG/KG CADMIUM	WATER UG/L LEAD	WATER UG/L CADMIUM
2202	1.2	525	3.7	473	5.4	2.6	U
2205	5.1	2140	8.0	2740	11.2	U	0.95
2218	0.7	506	2.1	247	7.9	U	U
2241	1.2	1790	5.0	652	16.3	U	U
2249	1.5	1120	3.7	1260 (60)	12.1	5.0	U
2252	5.8	1050	2.7	1255 (25)	10.7	U	U
2258	0.2	339	3.0	335	4.7	2.2	U
2266	6.2	143	2.2	304	4.8	2.8	U
2300	0.3	119	2.3	223 (5)	7.3	2.0	U
2309	0.1	231	2.9	255	10.6	U	U
2322	2.7	548	5.3	2970 (2215)	8.1 (2)	7.3	3.50
2324	3.7	1580	2.3	935	4.1	2.6	1.70
2327	4.0	687	2.4	658 (29.7)	11.5	2.2	U
2347	3.6	381	3.1	1390 (120)	16.5 (0.3)	4.0	U
2405	0.1	251	2.7	159	5.0	7.0	U
2537	0.9	402	4.5	2122 (882)	9.3 (1)	U	U
2545	3.3	633	4.0	41374 (11674)	22.0 (5)	U	U
2546	0.0	51	1.0	85	1.8	U	U
2558	10.4	644	4.2	411 (13)	36.6	95.5	U
2598	0.1	215	3.5	150	4.8	U	U
2612	4.2	644	3.7	655	16.5	U	U
2668	6.7	466	5.3	1690	8.5	U	U
2702	0.2	278	2.5	703 (67)	7.4 (0.1)	U	U

Key at end of table

NL INDUSTRIES LEAD AND CADMIUM ANALYTICAL DATA
FIELD SAMPLES
ARCS WA#22-5NK7

HOME ID#	PAINT MG/CM2 LEAD	* SOIL MG/KG LEAD	* SOIL MG/KG CADMIUM	DUST MG/KG LEAD	DUST MG/KG CADMIUM	WATER UG/L LEAD	WATER UG/L CADMIUM
2706	0.3	299	1.3	248	8.7	U	U
2721	0.2	85	1.5	165	7.8 (2.3)	2.2	U
2740	1.8	296	3.6	199	5.4	2.2	U
2745	0.6	887	5.0	382	12.2	U	U
2753	0.8	865	3.9	11234 (5422)	38.1 (11.2)	2.4	0.92
2754	1.5	506	3.6	363 (12)	7.1 (1)	U	U
2771	0.2	1190	2.8	1119	2.7	2.4	U
2831	0.4	263	2.4	177	6.2	U	U
2839	3.3	309	1.4	1106 (16)	4.4	U	U
2846	0.1	893	2.7	282	6.7	U	U
2863	0.1	297	4.0	229	8.1	U	U
2867	0.2	316	2.0	349	1.6	2.5	U
2878	3.1	425	2.4	548 (45)	8.0	3.3	U
2880	0.2	205	2.0	89	3.4	7.8	0.60
2906	1.8	301	4.2	1050 (697)	11.0 (0.2)	4.2	1.60
2912	0.5	542	4.2	853 (251)	6.6 (1.6)	7.6	7.40
2923	0.6	212	1.9	473 (112)	5.8 (0.1)	U	U
2968	0.1	502	3.9	5010 (2760)	15.3 (3.5)	U	U
3000	1.2	647	2.8	352 (4)	4.8	4.4	0.51
3053	1.2	511	4.2	144	3.1	U	U
3056	4.9	842	2.9	694 (94)	5.6	U	U
3104	0.1	448	2.3	107	6.7	U	U
3170	0.2	880	4.5	571 (3)	6.2	U	U

Key at end of table

NL INDUSTRIES LEAD AND CADMIUM ANALYTICAL DATA
FIELD SAMPLES
ARCS WA#22-5NK7

HOME ID#	PAINT MG/CM2	* SOIL MG/KG		DUST MG/KG		WATER UG/L	
	LEAD	LEAD	CADMIUM	LEAD	CADMIUM	LEAD	CADMIUM
3195	0.4	408	2.9	174	3.4	3.6	U
3201	0.0	219	2.9	158	7.5	U	U
3240	6.9	416	2.8	526	13.1	5.2	2.50
3251	0.2	102	1.6	152	5.4	3.1	U
3299	NA	106	1.5	67	3.7	U	U
3313	0.1	439	2.4	177	1.9	U	U
3325	0.0	467	2.4	222	3.9	U	U
3326	0.1	529	2.5	966	8.1	3.5	U
3356	NA	144	1.0	132	4.4	3.2	U
3358	0.1	218	2.4	195	8.7	U	U
3367	0.3	127	2.4	69	2.7	U	U
3385	0.6	1310	5.6	1070	11.5	2.0	0.68
3388	0.7	128	2.2	211	5.7	U	U
3392	0.8	111	2.4	310	6.6	5.7	U
3412	0.0	115	1.8	770	13.4 (1.2)	U	U
3413	0.5	133	2.0	138	6.2	3.3	U
3440	2.9	160	2.0	1230 (435)	23.4 (9.9)	U	0.73
3455	1.3	415	3.3	5	428.0	3.3	U
3459	1.1	118	2.6	274	4.0	U	U
3481	3.4	288	2.4	449	17.8	3.0	U
3508	0.1	83	U	192 (5)	4.2	U	U
3576	2.2	243	1.7	769 (24)	15.7	U	U
3644	0.6	272	1.9	1340	9.5 (0.2)	U	U

Key at end of table

08/07/92

NL INDUSTRIES LEAD AND CADMIUM ANALYTICAL DATA
FIELD SAMPLES
ARCS WA#22-5NK7

HOME ID#	PAINT MG/CM2	* SOIL MG/KG		DUST MG/KG		WATER UG/L	
	LEAD	LEAD	CADMIUM	LEAD	CADMIUM	LEAD	CADMIUM
3645	1.7	567	4.3	1940 (50)	14.5 (0.1)	3.3	U
3651	0.5	168	2.1	396	4.5	U	U
3747	0.2	151	1.5	106	3.7	5.0	U
3772	0.0	360	3.8	96	4.6	U	U
3796	0.7	288	2.5	116	10.4	U	U
3831	1.4	485	1.4	233	10.7	U	U
3863	0.8	181	3.5	65	1.7	18.4	U
5002	0.6	578	4.2	400	8.0	U	U
5011	1.9	622	2.7	240	5.4	U	U
5015	16.5	559	3.7	2710	16.2	U	U
5017	1.1	684	3.0	875 (111)	6.3	U	0.50
5021	0.7	193	2.1	279	6.0	U	U
5041	0.4	328	3.2	443	14.6	U	U
5066	10.4	1490	4.4	327	12.9	U	U
5071	0.3	105	1.7	210	9.4	7.4	U
5092	0.1	66	1.4	235	8.0	U	U
5107	0.1	360	3.2	142	7.3	U	U
5134	1.7	213	2.5	357	3.7	U	0.73
5172	0.6	164	2.5	106 (16)	6.1	U	U
5209	1.9	2130	6.5	770	7.2	4.5	U
5212	NA	242	1.3	NA	NA	U	U
5217	0.1	558	3.8	185	2.6	U	U
5245	NA	110	1.6	147 (1)	8.9	U	U

Key at end of table

08/07/92

NL INDUSTRIES LEAD AND CADMIUM ANALYTICAL DATA
FIELD SAMPLES
ARCS WA#22-5NK7

HOME ID#	PAINT MG/CM2 LEAD	* SOIL MG/KG LEAD	* SOIL MG/KG CADMIUM	DUST MG/KG LEAD	DUST MG/KG CADMIUM	WATER UG/L LEAD	WATER UG/L CADMIUM
5248	0.1	178	2.0	196	15.8	4.8	U
5293	2.1	453	2.4	310	8.1	U	U
5300	1.9	699	3.8	217	8.1	U	U
5305	0.4	285	3.8	55	3.1	3.9	U
5313	0.2	190	2.8	121	4.7	17.0	U
5329	2.9	444	3.7	132 (10)	2.2	U	U
5330	NA	109	U	196	4.7	U	U
5339	0.2	219	2.5	141	10.6	U	U
5354	0.7	150	2.0	165	12.0	U	U
5399	0.2	1840	4.4	1670 (140)	1.7	49.5	U
5417	0.3	217	3.8	331	7.5	2.5	U
5434	7.8	206	2.0	71000 (300)	6.2 (0.2)	U	U
5445	0.9	292	2.9	734	14.4	63.8	1.90
5513	1.0	168	2.4	539	9.5	U	1.20
5550	0.3	338	2.7	210	5.5	2.4	1.60
5891	0.4	111	1.8	260	5.8	U	U
5899	0.8	751	4.1	547	30.7	U	U
6066	2.4	254	1.9	158	5.5	U	U
6069	0.3	348	3.5	239	4.7	U	U
6099	NA	206	1.4	46	2.8	U	U
6153	0.9	154	2.5	268 (8)	16.4	2.4	U
6172	2.1	216	2.3	389	4.1	U	U
6176	0.0	533	4.5	295	6.1	U	U

Key at end of table

08/07/92

NL INDUSTRIES LEAD AND CADMIUM ANALYTICAL DATA
FIELD SAMPLES
ARCS WA#22-5NK7

HOME ID#	PAINT MG/CM2	* SOIL MG/KG		DUST MG/KG		WATER UG/L	
	LEAD	LEAD	CADMIUM	LEAD	CADMIUM	LEAD	CADMIUM
6208	0.0	160	2.4	238	8.2	U	U
6215	1.7	587	2.7	770	4.5	U	U
6246	0.1	419	5.0	864 (51)	13.5	U	U
6249	2.5	194	1.8	2460 (1330)	29.9 (15.7)	4.4	U
6267	0.1	178	3.3	143	4.9	2.3	U
6348	0.0	233	1.7	180	2.5	U	U
6355	0.2	227	3.2	502 (146)	10.0	7.8	7.60
6363	0.1	78	1.1	118	5.8	U	U
6382	4.4	347	4.5	502	11.4	2.7	U
6414	2.1	69	1.4	201	5.4	U	U
6433	0.4	114	3.2	108	11.2	5.0	1.10
6501	NA	331	2.3	NA	NA	8.0	U
6531	2.3	868	4.2	467 (4)	4.8	U	U
6538	0.0	82	1.4	146	3.7	U	U
6542	0.8	253	2.0	401 (1)	7.6	U	U
6559	5.3	485	3.1	2748 (1228)	11.0	U	U
6585	4.3	327	3.1	378 (3)	5.9	U	U
6627	0.2	162	1.6	141	2.3	U	U
6638	0.2	231	3.3	181	3.9	U	U
6656	3.7	277	3.5	991 (51)	8.0 (0.1)	U	U
6659	1.1	278	3.4	187 (12)	5.2	3.3	U
6671	0.2	466	2.9	205 (29)	8.4	2.6	U
6708	2.1	768	2.7	259 (5)	7.7	U	U

Key at end of table

NL INDUSTRIES LEAD AND CADMIUM ANALYTICAL DATA
FIELD SAMPLES
ARCS WA#22-5NK7

HOME ID#	PAINT MG/CM2	* SOIL MG/KG		DUST MG/KG		WATER UG/L	
	LEAD	LEAD	CADMIUM	LEAD	CADMIUM	LEAD	CADMIUM
6713	0.2	156	2.1	39	6.5	2.7	U
6744	4.1	378	5.1	582	20.4	2.5	1.30
6745	4.2	286	2.4	172	7.6	U	U
6752	0.3	75	U	380 (42)	11.1	4.8	U
6786	0.1	199	2.3	70	3.6	U	U
6826	3.3	653	4.1	557 (131)	10.9	U	0.89
6879	0.1	128	2.1	113	7.5	7.6	U
6880	0.2	1190	3.7	566	4.9	U	U
6895	0.3	525	4.0	450	10.4	U	U
6952	1.8	322	3.2	55 (1.1)	2.5	U	U
6978	0.1	203	2.4	223	6.6	U	U
7701	0.7	308	2.5	1306 (137)	11.7	U	U
7702	0.1	272	2.1	354	3.5	12.9	U
7704	0.4	274	2.3	247	4.7	0.6	U
7707	0.4	327	4.1	707 (25.9)	5.2 (0.7)	4.8	0.55
7730	2.6	835	2.6	521	8.6	U	U
7735	0.0	48	1.6	107	5.4	U	U
7815	0.2	40	U	37	5.1	U	U
7824	1.2	123	2.0	734 (345)	4.5 (0.2)	20.4	U
7828	0.0	696	3.0	103	4.2	*46.7	9.90
7869	0.3	445	5.8	336 (107)	12.7 (0.5)	29.0	U
7898	0.5	270	3.6	5310	10.6	6.1	U
7965	0.1	157	1.2	279	9.1	U	U

Key at end of table

08/07/92

NL INDUSTRIES LEAD AND CADMIUM ANALYTICAL DATA
FIELD SAMPLES
ARCS WA#22-5NK7

HOME ID#	PAINT MG/CM2 LEAD	* SOIL MG/KG LEAD	* SOIL MG/KG CADMIUM	DUST MG/KG LEAD	DUST MG/KG CADMIUM	WATER UG/L LEAD	WATER UG/L CADMIUM
8000	0.2	282	2.0	350	6.0	U	U
8010	0.1	419	3.3	349	6.0	U	U
8089	0.2	258	3.8	319	27.0	U	U
8211	0.1	NA	NA	216	4.7	U	U
8242	0.3	300	3.6	215	5.1	7.7	U
8332	0.1	167	3.0	144	4.5	2.2	U
8363	0.9	133	1.2	132 (17)	3.6	U	U
8388	0.6	388	4.1	310 (19)	3.3	U	U
8423	2.5	506	2.6	161	5.9	U	U
8551	2.4	189	2.3	4332 (3262)	19.4 (12.1)	2.0	U
8588	NA	230	2.3	162	5.4	U	U
8602	1.5	234	3.0	112	5.1	U	U
8623	2.7	177	2.6	1170 (702)	4.9 (0.6)	U	U
8649	0.1	80	1.8	22	0.5	2.1	U
8809	0.1	122	1.6	300	1.3	7.7	U
8817	1.1	511	4.8	307 (30)	6.4	U	0.98
8847	0.2	197	2.3	272 (33)	9.0 (1.2)	U	U
8969	0.7	125	1.7	151	72.3	9.2	2.90
8978	1.7	456	3.3	2159 (489)	11.1	9.2	3.00
9068	NA	37	U	96	3.8	U	U
9501	3.2	563	3.8	208	5.4	U	U
9502	0.3	78	1.2	243	1.4	U	U
9503	0.1	40	U	58	3.5	23.3	U

Key at end of table

NL INDUSTRIES LEAD AND CADMIUM ANALYTICAL DATA
FIELD SAMPLES
ARCS WA#22-5NK7

HOME ID#	PAINT MG/CM2 LEAD	* SOIL MG/KG LEAD	* SOIL MG/KG CADMIUM	DUST MG/KG LEAD	DUST MG/KG CADMIUM	WATER UG/L LEAD	WATER UG/L CADMIUM
9504	0.1	171	1.6	224	12.1	5.2	U
9505	1.2	230	1.8	1030 (395)	8.5 (0.3)	U	U
9506	0.7	454	2.3	119	3.9	8.2	U
9507	0.5	347	2.3	221	0.8	U	U
9509	0.0	441	3.0	163	3.8	U	U
9510	0.5	440	2.3	830 (9)	10.7 (1.7)	8.4	0.74
9511	0.9	444	3.7	3440 (2828)	12.1 (4.3)	2.0	U
9515/9544	0.9	43	U	207	6.0	U	U
9516	5.6	541	3.0	2470	5.2	U	U
9519	3.2	575	2.5	334 (7)	5.9	U	U
9521	0.2	190	3.4	249 (17)	9.0 (0.1)	U	2.00
9526	0.1	41	1.2	64	6.5	15.4	U
9527	0.1	497	3.1	296	7.0	48.4	U
9528	0.4	1250	3.8	3010 (2111)	4.8	2.2	U
9531	0.6	222	3.3	115	3.2	U	U
9537	1.2	741	5.2	1370	14.2	U	0.50
9538	4.1	741	3.5	363	15.1	U	U
9545	3.2	712	3.5	467	23.5	6.6	U
9546	0.1	588	3.9	696 (394)	9.1 (0.1)	U	U
9547	0.1	1180	4.7	46	1.0	8.4	U
9548	0.2	136	2.2	442	9.2	U	U
9549	1.4	153	2.5	124	4.9	U	U
9551	1.3	276	2.0	644 (10)	8.5	U	U

Key at end of table

08/07/92

NL INDUSTRIES LEAD AND CADMIUM ANALYTICAL DATA
FIELD SAMPLES
ARCS WA#22-5NK7

HOME ID#	PAINT MG/CM2	* SOIL MG/KG		DUST MG/KG		WATER UG/L	
	LEAD	LEAD	CADMIUM	LEAD	CADMIUM	LEAD	CADMIUM
9552	0.1	148	1.5	141	2.9	U	U
9600	1.0	647	3.2	515 (14)	8.6	3.2	U

Key:
* Samples were reanalyzed and the values used were from the reanalysis.
** The value is an average of 3 determinations.
U (Undetected) - Compounds were analyzed, but not detected above the laboratory detection limits.
J Indicates an estimated value.
NA (Not Analyzed) - A sample was not obtained for this matrix.
( ) Indicates dust sample results that were influenced by the presence of paint chips found in the sample. The values to the left of the parentheses are composited dust and paint chip results. The values within the parentheses indicate the amount of increase caused by the presence of paint chips. Composite results were determined by mathematically combining the concentrations of the dust and paint chips, proportionally to the total weight of the fractions.

3

06/19/92

NL INDUSTRIES LEAD AND CADMIUM ANALYTICAL DATA
DUPLICATE SAMPLES
ARCS WA#225NK-7

HOME ID#	*SOIL MG/KG LEAD	*SOIL MG/KG CADMIUM	DUST MG/KG LEAD	DUST MG/KG CADMIUM	WATER UG/L LEAD	WATER UG/L CADMIUM
D 205	NA	NA	NA	NA	U	U
D 230	424.0	4.9	NA	NA	NA	NA
D 265	1120.0	3.1	NA	NA	NA	NA
D 290	NA	NA	NA	NA	U	U
D 326	NA	NA	457.0 (8)	20.0 (1)	NA	NA
D 348	NA	NA	NA	NA	7.7	0.86
D 491	185.0	3.2	NA	NA	NA	NA
D 602	249.0	2.2	NA	NA	NA	NA
D 652	NA	NA	NA	NA	U	U
D 661	NA	NA	NA	NA	3.4	U
D 662	NA	NA	238.0	25.8	U	U
D 765	469.0	2.1	301.0 (46)	4.7	NA	NA
D 767	753.0	4.3	NA	NA	NA	NA
D 883	NA	NA	**716	**9.4	NA	NA
D1092	1610.0	4.6	NA	NA	NA	NA
D1238	336.0	2.9	NA	NA	NA	NA
D1419	NA	NA	NA	NA	U	U
D1464	NA	NA	221.0	4.1	NA	NA
D1473	NA	NA	226.0 (10)	15.5 (0.5)	NA	NA
D1543	641.0	4.7	NA	NA	NA	NA
D1557	NA	NA	NA	NA	U	U
D1679	NA	NA	NA	NA	U	U
D1706	NA	NA	NA	NA	5.0	U

Key at end of table

06/19/92

NL INDUSTRIES LEAD AND CADMIUM ANALYTICAL DATA
DUPLICATE SAMPLES
ARCS WA0225NK-7

HOME ID#	*SOIL MG/KG LEAD	*SOIL MG/KG CADMIUM	DUST MG/KG LEAD	DUST MG/KG CADMIUM	WATER UG/L LEAD	WATER UG/L CADMIUM
D1708	251.0	2.9	NA	NA	U	U
D1721	NA	NA	NA	NA	U	U
D1733	119.0	1.7	230.0 (96)	5.5	NA	NA
D1802	929.0	5.6	NA	NA	NA	NA
D2109	NA	NA	94.4	3.6	NA	NA
D2193	316.0	3.0	NA	NA	NA	NA
D2218	NA	NA	NA	NA	2.7	0.77
D2252	NA	NA	NA	NA	U	1.40
D2258	341.0	2.8	NA	NA	NA	NA
D2309	149.0	2.9	NA	NA	U	U
D2327	NA	NA	NA	NA	U	U
D2721	NA	NA	145.0	6.4	NA	NA
D2740	274.0	3.4	NA	NA	2.0	U
D2867	308.0	1.7	NA	NA	NA	NA
D2968	680.0	4.2	NA	NA	U	U
D3326	504.0	2.7	NA	NA	NA	NA
D3356	NA	NA	NA	NA	2.2	U
D3367	NA	NA	NA	NA	U	U
D3385	848.0	5.1	NA	NA	NA	NA
D3412	113.0	1.9	NA	NA	NA	NA
D3455	NA	NA	NA	NA	3.3	U
D3576	NA	NA	NA	NA	U	U
D3772	275.0	2.1	NA	NA	NA	NA

Key at end of table

06/19/92

NL INDUSTRIES LEAD AND CADMIUM ANALYTICAL DATA
DUPLICATE SAMPLES
ARCS WA#225NK-7

HOME ID#	*SOIL MG/KG LEAD	*SOIL MG/KG CADMIUM	DUST MG/KG LEAD	DUST MG/KG CADMIUM	WATER UG/L LEAD	WATER UG/L CADMIUM
D5002	525.0	4.4	NA	NA	NA	NA
D5021	NA	NA	274.0	5.7	NA	NA
D5107	321.0	2.6	NA	NA	NA	NA
D5172	162.0	2.7	NA	NA	NA	NA
D6066	267.0	1.8	NA	NA	U	U
D6585	NA	NA	499.0 (5)	6.2	NA	NA
D6744	NA	NA	NA	NA	U	U
D6880	1440.0	3.4	NA	NA	NA	NA
D6952	326.0	3.8	NA	NA	NA	NA
D7701	344.0	2.4	NA	NA	NA	NA
D7898	262.0	3.6	NA	NA	NA	NA
D8000	270.0	2.0	NA	NA	U	U
D8010	NA	NA	NA	NA	U	U
D8602	NA	NA	NA	NA	U	U
D8847	NA	NA	NA	NA	2.0	U
D9509	NA	NA	NA	NA	U	U
D9516	672.0	3.1	1440.0	7.7	NA	NA
D9528	NA	NA	2340.0 (1486)	4.7	NA	NA
D9531	NA	NA	NA	NA	U	U

Key:
* Samples were reanalyzed and the values used were from the reanalysis.
** The value is an average of 3 determinations.
U (Undetected) - Compounds were analyzed, but not detected above the laboratory detection limits.
J Indicated an estimated value.
NA (Not Analyzed) - A sample was not obtained for this matrix.
( ) Indicates dust sample results that were influenced by the presence of paint chips found in the sample. The values to the left of the parentheses are composited dust and paint chip results. The values within the parentheses indicate the amount of increase caused by the presence of paint chips. Composite results were determined by mathematically combining the concentrations of the dust and paint chips, proportionally to the total weight of the fractions.

08/07/92

NL INDUSTRIES
ADDITIONAL DUST SAMPLING INFORMATION
ARCS WA# 22-5WK7

HOME ID#	DUST CONCENTRATION (MG/KG) LEAD	CADMIUM	TOTAL SAMPLE WEIGHT (g)	* TOTAL AREA VACUUMED (sq ft)
146	1600 (100)	10.0 (0.2)	21.22	275
327	490	13.0	7.54	55
518	NA	NA	NA	NA
682	1600	4.6	4.43	200
770	2800	6.6	19.13	165
1065	240	4.6	15.81	106
1178	4100	10.0	16.75	206
1306	750	5.1	12.98	310
1313	1200	6.6 (0.1)	6.78	206
1334	600	6.7	8.95	15
1360	15000	22.0	3.19	110
1669	160	4.7	14.73	60
1830	1200	6.0	5.58	70
1917	180	4.6	8.18	130
2032	520	5.3	11.25	131
2060	370 (10)	8.9	27.88	75
2094	580	6.3	11.6	247
2096	25000	9.3	7.3	150
2287	110	2.7	6.17	332
2523	660	9.0	11.49	75
2593	1800	12.0	10.57	168
2625	220	6.4	10.82	221
2752	510	6.7	3.17	140

Key at end of table

08/07/92

NL INDUSTRIES
ADDITIONAL DUST SAMPLING INFORMATION
ARCS WA# 22-5NK7

HOME ID#	DUST CONCENTRATION (MG/KG) LEAD	CADMIUM	TOTAL SAMPLE WEIGHT (g)	* TOTAL AREA VACUUMED (sq ft)
2765	560	7.8	15.17	192
2767	470 (10)	7.9	11.71	184
2768	**823 (264)	**10.7 (0.5)	13.91	123
2877	600	8.8	8.39	105
2963	510	4.9 (0.1)	42.24	80
3129	1700 (100)	6.0 (0.3)	6.69	181
3138	590	5.9	11.54	228
3172	150	2.8	4.28	30
3281	150	3.2	9.26	134
3502	330	12.0	33.72	20
3603	1700	4.1	8.7	165
5067	220	5.1	4.96	140
5123	1200	5.1	12.07	185
5403	5900 (100)	37.0 (1)	4.49	162
5405	220	4.8	3.02	125
6058	370	10.0	8.84	50
6212	270 (20)	4.3 (1.9)	15.42	25
6285	560 (110)	13.0	22.36	154
6295	440	3.3	5.51	55
6839	120	3.0	12.95	216
6972	1000 (20)	4.5 (0.2)	3.52	160
7784	650 (60)	4.8	20.14	262

Key at end of table

08/07/92

NL INDUSTRIES
ADDITIONAL DUST SAMPLING INFORMATION
ARCS WA# 22-5NK7

HOME ID#	DUST CONCENTRATION (MG/KG) LEAD	CADMIUM	TOTAL SAMPLE WEIGHT (g)	* TOTAL AREA VACUUMED (sq ft)
7834	1500	4.0	10.7	210
7918	710	7.5	14.9	241
8117	420	5.5	7.69	105
8459	510 (10)	6.3	5.36	90
8832	170	2.2	11.73	60
9512	290	9.6	7.36	250
9529	440 (10)	8.5 (0.1)	19.11	211
9530	230	1.2	3.95	95
9536	3400 (600)	9.9	7.58	162

Key:
* Total area vacuumed is estimated.
** Values were not reported at the time of original submittal.
NA (Not Analyzed) - A sample was not obtained for this matrix.
( ) Indicates dust sample results that were influenced by the presence of paint chips found in the sample. The values to the left of the parentheses are composited dust and paint chip results. The values within the parentheses indicate the amount of increase caused by the presence of paint chips. Composite results were determined by mathematically combining the concentrations of the dust and paint chips, proportionally to the total weight of the fractions.

NL INDUSTRIES
ADDITIONAL DUST SAMPLING INFORMATION
ARCS WA# 22-5NK7

HOME ID#	DUST CONCENTRATION (MG/KG) LEAD	CADMIUM	TOTAL SAMPLE WEIGHT (g)	* TOTAL AREA VACUUMED (sq ft)
9	454 (1)	10.2	9.95	65
37	212	6.0	20.04	220
40	366	9.6	16.58	140
66	124	3.3	6.61	110
111	192	6.7	6.64	324
153	733	9.7	1.75	95
205	NA	NA	NA	NA
230	492	16.6	2.14	130
248	383	1.4	3.46	60
265	907	10.6	4.34	100
287	205 (10)	6.7	11.92	117
290	145	5.1	0.71	95
326	429	19.4	5.36	45
344	NA	NA		NA
348	133	5.0	7.56	276
364	159	1.9	13.28	230
374	1050	15.2	0.85	95
390	151 (11)	3.1	33.02	138
399	400	8.0	4.75	202
437	925	7.9	11.31	95
440	268 (91)	4.8	7.05	162
441	298	25.4	11.08	60
455	431 (14)	4.6	23.81	60

Key at end of table

08/07/92

NL INDUSTRIES
ADDITIONAL DUST SAMPLING INFORMATION
ARCS WA# 22-5NK7

HOME ID#	DUST CONCENTRATION (MG/KG) LEAD	CADMIUM	TOTAL SAMPLE WEIGHT (g)	* TOTAL AREA VACUUMED (sq ft)
465	369	5.7	4.34	135
491	1063 (391)	7.8 (0.1)	10.77	162
498	844 (428)	5.5 (0.3)	9.53	85
500	296	4.5	7.38	60
506	447 (8)	3.5	3.22	177
522	939 (341)	4.9	2.16	95
568	276	4.2	4.24	70
571	413 (73)	6.4 (0.1)	4.77	125
579	261 (3)	5.8	18.85	324
596	24500 (2000)	17.3 (0.2)	7.24	55
602	913 (252)	50.1	6.98	327
606	765 (10)	31.3	9.87	313
634	700	2.8	2.17	140
652	247	8.0	3.45	254
661	24800 (1100)	20.2	0.53	***
662	241	25.6	3.10	80
693	545 (57)	14.4 (0.5)	9.53	90
697	222	5.6	5.02	221
722	739	8.9	3.29	70
726	223 (1)	7.4	15.92	210
728	203	5.4	13.49	75
752	3561 (441)	18.2 (7.2)	8.14	137
757	351	16.9	3.73	173

Key at end of table

08/07/92

NL INDUSTRIES
ADDITIONAL DUST SAMPLING INFORMATION
ARCS WA# 22-5NK7

HOME ID#	DUST CONCENTRATION (MG/KG) LEAD	CADMIUM	TOTAL SAMPLE WEIGHT (g)	* TOTAL AREA VACUUMED (sq ft)
765	326 (62)	5.3	14.37	215
767	2260	10.8	13.37	375
791	675 (17)	6.1 (0.1)	3.55	300
809	231	3.9	2.40	105
844	19 (13)	6.0	13.32	55
849	341	8.4	7.34	90
873	381 (18)	5.1 (0.1)	10.12	183
883	**242	**6.8	7.27	60
952	240	6.4	5.58	155
982	166	3.0	5.47	125
998	200 (6)	10.7	9.97	738
1037	780	6.3	4.18	65
1068	425	7.4	9.17	84
1088	1000	4.0	4.40	250
1092	589 (100)	7.0	3.39	115
1103	2170 (1020)	48.9	14.37	182
1108	392 (127)	5.0 (0.1)	5.02	75
1120	159 (302)	4.9	4.98	65
1151	228 (9)	13.6	7.16	85
1217	585 (251)	6.8	9.82	225
1238	194 (20)	5.1 (0.6)	3.99	325
1352	965 (217)	11.0 (1.2)	9.73	235
1366	NA	NA	NA	NA

Key at end of table

08/07/92

NL INDUSTRIES
ADDITIONAL DUST SAMPLING INFORMATION
ARCS WA# 22-5NK7

HOME ID#	DUST CONCENTRATION (MG/KG) LEAD	CADMIUM	TOTAL SAMPLE WEIGHT (g)	* TOTAL AREA VACUUMED (sq ft)
1369	144	5.9	2.26	175
1374	224	9.0	8.42	137
1419	8370 (7751)	11.3 (0.3)	1.91	197
1444	413 (100)	7.9	5.40	246
1446	1250	6.5	5.90	220
1452	1450 (1113)	14.8 (9.4)	7.90	125
1464	315	6.9	8.99	392
1473	243 (32)	12.2 (0.6)	12.60	165
1474	581 (33)	22.9	7.21	105
1490	1150 (10)	17.0 (0.2)	6.28	229
1504	168	3.9	3.25	300
1517	341	6.8	9.43	75
1521	261	7.3	2.97	160
1543	343	5.0	6.90	195
1557	366	6.3	14.22	203
1603	1690 (754)	10.5 (2.6)	4.10	70
1610	261	6.5	2.26	75
1638	117	2.9	13.16	255
1651	223	6.7	2.54	70
1664	199	4.2	13.87	250
1673	331	12.7	4.62	95
1679	136	5.0	1.82	65
1693	4650 (2180)	8.1 (1.2)	3.47	25

Key at end of table

NL INDUSTRIES
ADDITIONAL DUST SAMPLING INFORMATION
ARCS WA# 22-5NK7

HOME ID#	DUST CONCENTRATION (MG/KG) LEAD	CADMIUM	TOTAL SAMPLE WEIGHT (g)	* TOTAL AREA VACUUMED (sq ft)
1706	322	3.8	28.71	190
1708	306	4.0	7.20	100
1719	307	U	2.39	135
1721	116	5.0	1.32	45
1732	379 (3)	12.5	6.66	165
1733	168 (13)	7.3	14.50	141
1802	808	18.5	8.76	280
1812	354	10.4	3.07	90
1829	471 (1)	4.2	1.54	234
1841	96	5.6	5.03	85
1851	128	5.9	6.15	105
1854	379	5.0	1.85	210
1855	169	3.7	3.26	125
1912	286	5.9	7.40	180
1913	734 (9)	6.6	25.89	150
1960	208	6,9	3.62	90
1971	37016 (7916)	30.3	25.61	225
2000	175	4.3	7.36	141
2058	393	7.2	10.92	137
2092	177 (5)	3.8	7.49	200
2109	117	4.8	8.72	105
2111	206	3.3	16.10	60
2193	356 (76)	5.4 (0.1)	7.64	145

Key at end of table

08/07/92

NL INDUSTRIES
ADDITIONAL DUST SAMPLING INFORMATION
ARCS WA# 22-5NK7

HOME ID#	DUST CONCENTRATION (MG/KG) LEAD	CADMIUM	TOTAL SAMPLE WEIGHT (g)	* TOTAL AREA VACUUMED (sq ft)
2202	473	5.4	25.88	120
2205	2740	11.2	5.38	218
2218	247	7.9	7.90	156
2241	652	16.3	5.30	80
2249	1260 (60)	12.1	10.70	222
2252	1255 (25)	10.7	10.79	254
2258	335	4.7	1.21	60
2266	304	4.8	3.86	245
2300	223 (5)	7.3	4.05	75
2309	255	10.6	6.37	65
2322	2970 (2215)	8.1 (2)	2.49	154
2324	935	4.1	1.59	80
2327	658 (29.7)	11.5	7.03	200
2347	1390 (120)	16.5 (0.3)	5.00	185
2405	159	5.0	1.58	80
2537	2122 (882)	9.3 (1)	5.79	65
2545	41374 (11674)	22.0 (5)	20.75	157
2546	85	1.8	1.15	270
2558	411 (13)	36.6	4.25	369
2598	150	4.8	16.51	95
2612	655	16.5	6.45	120
2668	1690	8.5	5.93	147
2702	703 (67)	7.4 (0.1)	14.81	96

Key at end of table

08/07/92

NL INDUSTRIES
ADDITIONAL DUST SAMPLING INFORMATION
ARCS WA# 22-5NK7

HOME ID#	DUST CONCENTRATION (MG/KG) LEAD	CADMIUM	TOTAL SAMPLE WEIGHT (g)	* TOTAL AREA VACUUMED (sq ft)
2706	248	8.7	6.39	310
2721	165	7.8 (2.3)	10.46	210
2740	199	5.4	5.62	145
2745	382	12.2	2.33	150
2753	11234 (5422)	38.1 (11.2)	17.26	650
2754	363 (12)	7.1 (1)	3.97	185
2771	1119	2.7	5.22	75
2831	177	6.2	2.27	192
2839	1106 (16)	4.4	9.58	225
2846	282	6.7	2.54	120
2863	229	8.1	7.24	80
2867	349	1.6	1.95	152
2878	548 (45)	8.0	38.99	170
2880	89	3.4	9.48	197
2906	1050 (697)	11.0 (0.2)	4.62	282
2912	853 (251)	6.6 (1.6)	2.04	370
2923	473 (112)	5.8 (0.1)	7.23	165
2968	5010 (2760)	15.3 (3.5)	7.13	310
3000	352 (4)	4.8	4.97	140
3053	144	3.1	2.51	70
3056	694 (94)	5.6	25.89	170
3104	107	6.7	5.30	172
3170	571 (3)	6.2	10.49	140

Key at end of table

08/07/92

NL INDUSTRIES
ADDITIONAL DUST SAMPLING INFORMATION
ARCS WA# 22-5NK7

HOME ID#	DUST CONCENTRATION (MG/KG) LEAD	CADMIUM	TOTAL SAMPLE WEIGHT (g)	* TOTAL AREA VACUUMED (sq ft)
3195	174	3.4	5.20	250
3201	158	7.5	9.21	188
3240	526	13.1	5.95	265
3251	152	5.4	7.08	133
3299	67	3.7	2.02	165
3313	177	1.9	2.13	105
3325	222	3.9	1.39	60
3326	966	8.1	4.78	75
3356	132	4.4	25.60	153
3358	195	8.7	5.84	55
3367	69	2.7	11.65	115
3385	1070	11.5	6.02	264
3388	211	5.7	7.45	151
3392	310	6.6	5.53	140
3412	770	13.4 (1.2)	7.46	148
3413	138	6.2	6.28	130
3440	1230 (435)	23.4 (9.9)	12.69	105
3455	5	428.0	5.93	198
3459	274	4.0	11.62	289
3481	449	17.8	10.37	210
3508	192 (5)	4.2	1.52	279
3576	769 (24)	15.7	3.31	370
3644	1340	9.5 (0.2)	12.81	295

Key at end of table

08/07/92

NL INDUSTRIES
ADDITIONAL DUST SAMPLING INFORMATION
ARCS WA# 22-5NK7

HOME ID#	DUST CONCENTRATION (MG/KG) LEAD	CADMIUM	TOTAL SAMPLE WEIGHT (g)	* TOTAL AREA VACUUMED (sq ft)
3645	1940 (50)	14.5 (0.1)	7.86	100
3651	396	4.5	6.80	240
3747	106	3.7	8.51	299
3772	96	4.6	1.52	72
3796	116	10.4	1.60	120
3831	233	10.7	2.37	50
3863	65	1.7	0.77	70
5002	400	8.0	4.14	80
5011	240	5.4	3.13	110
5015	2710	16.2	11.88	250
5017	875 (111)	6.3	3.80	90
5021	279	6.0	17.24	145
5041	443	14.6	9.24	90
5066	327	12.9	11.18	90
5071	210	9.4	2.88	231
5092	235	8.0	3.06	175
5107	142	7.3	2.40	110
5134	357	3.7	2.41	70
5172	106 (16)	6.1	4.03	155
5209	770	7.2	0.81	***
5212	NA	NA	NA	NA
5217	185	2.6	3.76	40
5245	147 (1)	8.9	19.54	233

Key at end of table

08/07/92

NL INDUSTRIES
ADDITIONAL DUST SAMPLING INFORMATION
ARCS WA# 22-5MK7

HOME ID#	DUST CONCENTRATION (MG/KG) LEAD	CADMIUM	TOTAL SAMPLE WEIGHT (g)	* TOTAL AREA VACUUMED (sq ft)
5248	196	15.8	3.49	156
5293	310	8.1	8.11	178
5300	217	8.1	7.15	105
5305	55	3.1	4.73	80
5313	121	4.7	5.96	95
5329	132 (10)	2.2	7.30	178
5330	196	4.7		75
5339	141	10.6	8.05	252
5354	165	12.0	2.19	80
5399	1670 (140)	1.7	2.69	100
5417	331	7.5	6.77	270
5434	71000 (300)	6.2 (0.2)	7.01	235
5445	734	14.4	1.88	150
5513	539	9.5	9.01	192
5550	210	5.5	4.32	90
5891	260	5.8	5.44	165
5899	547	30.7	6.53	115
6066	158	5.5	12.91	130
6069	239	4.7	6.16	300
6099	46	2.8	7.38	60
6153	268 (8)	16.4	6.54	175
6172	389	4.1	16.56	211
6176	295	6.1	12.35	164

Key at end of table

NL INDUSTRIES
ADDITIONAL DUST SAMPLING INFORMATION
ARCS WA# 22-5NK7

HOME ID#	DUST CONCENTRATION (MG/KG) LEAD	CADMIUM	TOTAL SAMPLE WEIGHT (g)	* TOTAL AREA VACUUMED (sq ft)
6208	238	8.2	3.34	60
6215	770	4.5	15.42	120
6246	864 (51)	13.5	6.66	229
6249	2460 (1330)	29.9 (15.7)	6.07	219
6267	143	4.9	1.78	125
6348	180	2.5	2.33	60
6355	502 (146)	10.0	3.89	240
6363	118	5.8	4.76	225
6382	502	11.4	2.74	140
6414	201	5.4	10.64	164
6433	108	11.2	1.03	115
6501	NA	NA	NA	NA
6531	467 (4)	4.8	10.13	115
6538	146	3.7	2.28	125
6542	401 (1)	7.6	8.50	110
6559	2748 (1228)	11.0	6.12	280
6585	378 (3)	5.9	5.67	197
6627	141	2.3	16.12	400
6638	181	3.9	28.30	180
6656	991 (51)	8.0 (0.1)	7.77	310
6659	187 (12)	5.2	10.97	110
6671	205 (29)	8.4	9.95	256
6708	259 (5)	7.7	7.17	95

Key at end of table

08/07/92

NL INDUSTRIES
ADDITIONAL DUST SAMPLING INFORMATION
ARCS WA# 22-5HK7

HOME ID#	DUST CONCENTRATION (MG/KG) LEAD	CADMIUM	TOTAL SAMPLE WEIGHT (g)	* TOTAL AREA VACUUMED (sq ft)
6713	39	6.5	8.70	181
6744	582	20.4	1.19	130
6745	172	7.6	8.02	120
6752	380 (42)	11.1	13.35	194
6786	70	3.6	6.92	125
6826	557 (131)	10.9	5.21	177
6879	113	7.5	2.67	105
6880	566	4.9	2.89	155
6895	450	10.4	5.14	255
6952	55 (1.1)	2.5	6.15	120
6978	223	6.6	9.42	158
7701	1306 (137)	11.7	12.46	222
7702	354	3.5	19.07	100
7704	247	4.7	10.12	100
7707	707 (25.9)	5.2 (0.7)	14.69	236
7730	521	8.6	3.97	110
7735	107	5.4	0.67	150
7815	37	5.1	4.99	309
7824	734 (345)	4.5 (0.2)	13.40	170
7828	103	4.2	3.12	70
7869	336 (107)	12.7 (0.5)	8.05	100
7898	5310	10.6	0.55	100
7965	279	9.1	2.81	75

Key at end of table

NL INDUSTRIES
ADDITIONAL DUST SAMPLING INFORMATION
ARCS WA# 22-5NK7

HOME ID#	DUST CONCENTRATION (MG/KG) LEAD	CADMIUM	TOTAL SAMPLE WEIGHT (g)	* TOTAL AREA VACUUMED (sq ft)
8000	350	6.0		55
8010	349	6.0	8.15	135
8089	319	27.0	8.48	132
8211	216	4.7	3.10	36
8242	215	5.1	6.88	110
8332	144	4.5	10.41	204
8363	132 (17)	3.6	7.11	150
8388	310 (19)	3.3	10.80	238
8423	161	5.9	6.00	80
8551	4332 (3262)	19.4 (12.1)	12.22	249
8588	162	5.4	1.60	140
8602	112	5.1	5.29	95
8623	1170 (702)	4.9 (0.6)	10.05	158
8649	22	0.5	3.84	190
8809	300	1.3	17.09	90
8817	307 (30)	6.4	11	110
8847	272 (33)	9.0 (1.2)	9.96	241
8969	151	72.3	4.25	244
8978	2159 (489)	11.1	7.28	85
9068	96	3.8	8.95	238
9501	208	5.4	6.06	250
9502	243	1.4	0.52	255
9503	58	3.5	1.39	197

Key at end of table

08/07/92

NL INDUSTRIES
ADDITIONAL DUST SAMPLING INFORMATION
ARCS WA# 22-5WK7

HOME ID#	DUST CONCENTRATION (MG/KG) LEAD	CADMIUM	TOTAL SAMPLE WEIGHT (g)	* TOTAL AREA VACUUMED (sq ft)
9504	224	12.1	6.57	222
9505	1030 (395)	8.5 (0.3)	9.25	185
9506	119	3.9	5.68	200
9507	221	0.8	3.3	60
9509	163	3.8	1.18	360
9510	830 (9)	10.7 (1.7)	7.07	144
9511	3440 (2828)	12.1 (4.3)	3.89	98
9515/9544	207	6.0	9.12	303
9516	2470	5.2	3.72	282
9519	334 (7)	5.9	12.64	100
9521	249 (17)	9.0 (0.1)	10.17	260
9526	64	6.5	2.29	125
9527	296	7.0	10.55	75
9528	3010 (2111)	4.8	5.71	169
9531	115	3.2	2.92	243
9537	1370	14.2	1.21	170
9538	363	15.1	2.27	180
9545	467	23.5	4.66	266
9546	696 (394)	9.1 (0.1)	3.14	175
9547	46	1.0	0.84	130
9548	442	9.2	9.23	160
9549	124	4.9	4.43	135
9551	644 (10)	8.5	9.03	187

Key at end of table

08/07/92

NL INDUSTRIES
ADDITIONAL DUST SAMPLING INFORMATION
ARCS WA# 22-5NK7

HOME ID#	DUST CONCENTRATION (MG/KG) LEAD	CADMIUM	TOTAL SAMPLE WEIGHT (g)	* TOTAL AREA VACUUMED (sq ft)
9552	141	2.9	11.81	136
9600	515 (14)	8.6	5.73	155

Key:
* Total area vacuumed is estimated.
** The value is an average of 3 determinations.
*** Due to field conditions, sample area was not obtained.
U (Undetected) - Compounds were analyzed, but not detected above the laboratory detection limits.
J Indicates an estimated value.
NA (Not Analyzed) - A sample was not obtained for this matrix.
( ) Indicates dust sample results that were influenced by the presence of paint chips found in the sample. The values to the left of the parentheses are composited dust and paint chip results. The values within the parentheses indicate the amount of increase caused by the presence of paint chips. Composite results were determined by mathematically combining the concentrations of the dust and paint chips, proportionally to the total weight of the fractions.

APPENDIX A

RESIDENT'S PRE-SAMPLING EVENT INFORMATION LETTER

ILLINOIS DEPARTMENT OF
PUBLIC HEALTH
A Healthier Today For A Better Tomorrow

John R. Lumpkin, M.D., Director

Hello my name is _____. I'm taking environmental samples for the Illinois Department of Public Health's Lead Study. The environmental samples are the third and final phase of the lead study in which you are participating.

When you were chosen to participate in the study, it was explained to you that environmental samples would be taken from your property. The environmental samples I'm going to take from your property today include soil, household dust, and water. In addition, paint will be analyzed with a non-destructive technique called XRF. These environmental samples will be analyzed to determine potential sources of lead exposure to you and your family. All environmental sample results will be kept confidential. However, they will be reported to you after several months. You will be notified of the results by mail.

If you have any questions regarding the sampling or the study please contact:

David Webb
22 Kettle River Drive
Edwardsville, IL 62025
(618) 656-6680

ILLINOIS DEPARTMENT OF
PUBLIC HEALTH
A Healthier Today For A Better Tomorrow

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David Webb
22 Kettle River Drive
Edwardsville, IL 62025
(618) 656-6680

B

APPENDIX B

FIELD SAMPLING FORMS

SOIL SAMPLING FIELD FORM

ATSDR HOME ID # _____
SAMPLE # _____
DATE _____(m/d/y)
START TIME _____(24:00)
END TIME _____
SAMPLER _____

CHECK WHEN COMPLETE

- ☐ On reverse side, draw top view diagram of property showing home, other buildings, and primary features.
- ☐ Check for the following and indicate (where appropriate) on the diagram:
- ☐ Type and condition of main building:
  ☐ brick ☐ wood frame ☐ 1 story ☐ 2 story ☐ other
- ☐ Condition of yard:
  ☐ neat lawn ☐ overgrown ☐ debris ☐ standing water ☐ bare ground
  ☐ paved ☐ other
- ☐ Fence:
  ☐ complete ☐ partial ☐ none
  ☐ chain-link ☐ wood ☐ iron ☐ other
- ☐ Animals (indicate number)
  ☐ dogs ☐ cats ☐ other
- ☐ Apparent use of yard:
  ☐ children's play area ☐ children observed in yard ☐ other
- ☐ Collect 10 soil aliquots according to prescribed methods, and indicate locations on diagram
- ☐ Composite soil into one sample and package and label according to prescribed methods

XRF OPERATOR FIELD FORM

ATSDR HOME ID #_____
SAMPLE #_____
DATE _____(m/d/y)
START TIME _____(24:00)
END TIME _____

START CALIBRATION _____
END CALIBRATION _____
AVERAGE TIME PER 10 CALIBRATIONS (SEC) _____
TECHNICIAN _____
ARITHMETIC MEAN OF 18 READINGS IN HOME _____

On reverse side draw a top view diagram of the floor plan showing the primary features of the residence and the relationship of the various rooms to one another. Include a north arrow. label rooms according to their apparent function. Place reading # where each reading was taken.

ROOM 1

PAINTED WALLS

READING 1 ____ HEIGHT _____ CONDITION _____ TEST SOURCE(sec) ___ ADJ READING ___
READING 2 ____ HEIGHT _____ CONDITION _____ TEST SOURCE(sec) ___ ADJ READING ___
READING 3 ____ HEIGHT _____ CONDITION _____ TEST SOURCE(sec) ___ ADJ READING ___

PAINTED WOODWORK

READING 4 ____ HEIGHT _____ CONDITION ____ DESCR. ____ TEST (sec) ___ ADJ READING ___
READING 5 ____ HEIGHT _____ CONDITION ____ DESCR. ____ TEST (sec) ___ ADJ READING ___
READING 6 ____ HEIGHT _____ CONDITION ____ DESCR. ____ TEST (sec) ___ ADJ READING ___

ROOM 2

PAINTED WALLS

READING 7 ____ HEIGHT _____ CONDITION _____ TEST SOURCE(sec) ___ ADJ READING ___
READING 8 ____ HEIGHT _____ CONDITION _____ TEST SOURCE(sec) ___ ADJ READING ___
READING 9 ____ HEIGHT _____ CONDITION _____ TEST SOURCE(sec) ___ ADJ READING ___

PAINTED WOODWORK

READING 10____ HEIGHT _____ CONDITION ____ DESCR. ____ TEST (sec) ___ ADJ READING ___
READING 11____ HEIGHT _____ CONDITION ____ DESCR. ____ TEST (sec) ___ ADJ READING ___
READING 12____ HEIGHT _____ CONDITION ____ DESCR. ____ TEST (sec) ___ ADJ READING ___

ROOM 3

PAINTED WALLS

READING 13____ HEIGHT _____ CONDITION _____ TEST SOURCE(sec) ___ ADJ READING ___
READING 14____ HEIGHT _____ CONDITION _____ TEST SOURCE(sec) ___ ADJ READING ___
READING 15____ HEIGHT _____ CONDITION _____ TEST SOURCE(sec) ___ ADJ READING ___

PAINTED WOODWORK

READING 16____ HEIGHT _____ CONDITION ____ DESCR. ____ TEST (sec) ___ ADJ READING ___
READING 17____ HEIGHT _____ CONDITION ____ DESCR. ____ TEST (sec) ___ ADJ READING ___
READING 18____ HEIGHT _____ CONDITION ____ DESCR. ____ TEST (sec) ___ ADJ READING ___

CONDITION CODE:
1 INTACT
2 SLIGHTLY PEELING
3 MODERATE PEELING
4 EXTREMELY DETERIORATED

DESCRIPTION CODE:
W WINDOW SILL
B BASEBOARD
D DOORFRAME
(Write-in if other)

CALCULATIONS:
FORMULA FOR ADJUSTING READING:
A = TIME (SEC) FROM "HANDLE PUSH" TO "10" READING OF SOURCE.
B = AVERAGE TIME (SEC) FOR 10 READINGS ON CALIBRATION SOURCE.
A/B = DIFFERENCE FACTOR
10mg/cm² READING / DIFFERENCE FACTOR = ADJUSTED READING.

VACUUM DUST SAMPLING FIELD FORM

ATSDR HOME ID # _____
SAMPLE # _____
DATE _____(m/d/y)
START TIME _____(24:00)
END TIME _____
SAMPLER _____
CHILDREN IN HOME?_____(Y/N)

CHECK WHEN
COMPLETE

☐ Collect dust sample according to prescribed methods

☐ Package and label according to prescribed methods

☐ Indicate areas sampled on reverse of XRF Operator Field Form
(use different color)

Area Sampled _____ square feet

DRINKING WATER SAMPLING FIELD FORM

SAMPLE # _____
Approximate time sample was collected by resident _____
Date E&E picked up sample _____
Time E&E picked up sample _____
Preservative added? ___(check when complete)

Plumbing:

☐ Copper ☐ Galvanized ☐ PVC ☐ Lead

SORRY WE MISSED YOU! ...

The lead study sampling team would like to reschedule an appointment with you. Please call us at (618)345-7700, room 117 to set up a new appoinment. If we do not hear from you, we will call or stop by soon.

Thank you

DIRECTIONS FOR WATER SAMPLE COLLECTION

- Only use the plastic bottle that has been provided to you. Do not use any other container. Do not remove the cap until you are ready to collect the sample.

- Tomorrow morning fill the plastic bottle with water from the cold water faucet of your kitchen tap before turning on any other water source in the house. In other words, collect the sample before you take a shower, flush the toilet, or run any faucet.

- Fill the bottle to the top and replace the cap.

- Place the bottle in a safe place until our sampling team can pick it up during our scheduled visit at _____ on _____.

THANK YOU FOR YOUR TIME AND COOPERATION.